GM	WORLDWIDE ENGINEERING STANDARDS	Test Procedure	GMW16630

Multi-Piece Spoiler Attachment Integrity Test

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. The purpose of this procedure is to determine if a multi-piece spoiler meets the attachment integrity requirements of the Subsystem Technical Specification (SSTS).

1.2 Applicability. This test procedure is to be used for multi-piece spoilers, lift gate multi piece spoilers as well as deck lid flush mounted and stanchion mounted spoilers.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW3221

2.3 Additional References.

- Subsystem Technical Specification (SSTS)

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment.

Note: The following items are typically required to perform this test. Other equipment may be substituted at the discretion of the testing facility as long as it provides the same data with equivalent accuracy and is approved by the requesting engineer.

3.2.1 Fixture.

3.2.1.1 Clamps to secure part to tension tester.

3.2.2 Instrumentation.

3.2.2.1 Tension tester with over a 1200 N load capability.

3.2.2.2 Force recording equipment with over a 1200 N capability.

3.3 Test Vehicle/Test Piece.

3.3.1 Test Piece. The spoiler assembly is to be a production representative part with the correct finish.

3.3.2 Test Sample Preparation. A minimum 8 h cure time is required after the spoiler inner has been welded or co-molded to the spoiler outer.

3.3.3 Conditioning. Condition to GMW3221 - Code A.

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3.4 Test Time.

Calendar time:	1 d
Test hours:	1 h
Coordination hours:	4 h

3.5 Test Required Information. The peak force to separate the upper and lower components of the multi-piece spoiler assembly or to separate the blade from the stanchion component.

3.6 Personnel/Skills. Prior experience in setting up and running similar tests and experience in the use of the referenced test equipment are critical to achieving the estimated times shown in 3.4.

4 Procedure

4.1 Preparation.

4.1.1 Test Piece Constraints. Spoiler outer is to be securely constrained to test apparatus with bolts or clamps per Figure 1 without changing the shape of the part. With the inner panel secured, pull the upper with suction cups or other attachment that will pull the upper panel only.

4.1.2 Test Pull Locations. Consult Design Release Engineer (DRE) or Bill of Material (BOM) Family Owner (BFO) for correct pull locations.

4.1.2.1 This can be done with suction cups as shown in Figure 1 and Figure 2 or by drilling through the Class A surface of the spoiler in the dog house locations and securing bolts to a metal pull bar per Figure 3 and Figure 4. Make sure the set up uses pull bars to cover the entire spoiler, not just middle area.

4.2 Conditions.

4.2.1 Environmental Conditions. Not applicable.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions.

4.3.1 The spoiler assembly shall be supported as in 4.1.1.

4.3.2 The spoiler assembly shall be pulled at a rate of 50 mm/minute until there is separation between the spoiler inner and outer.

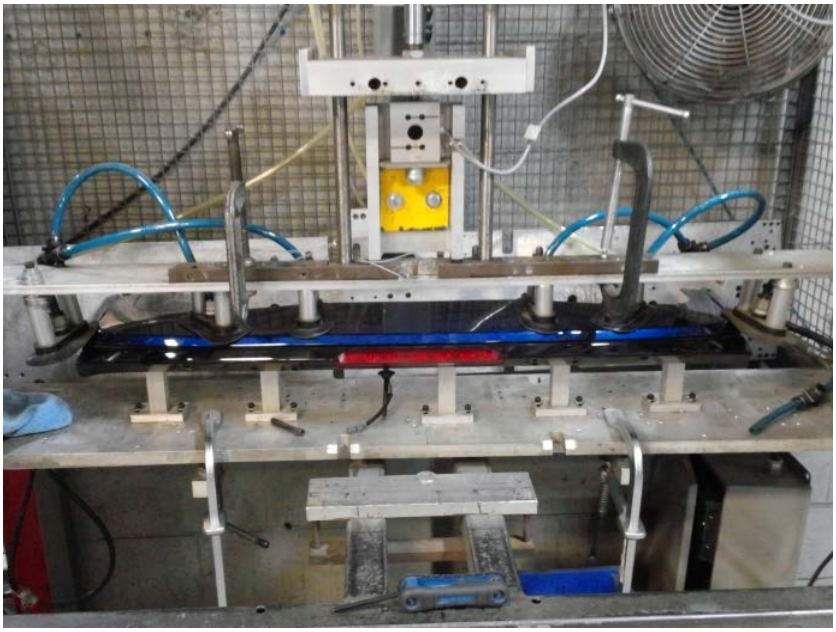

Figure 1: Spoiler Constraints

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